

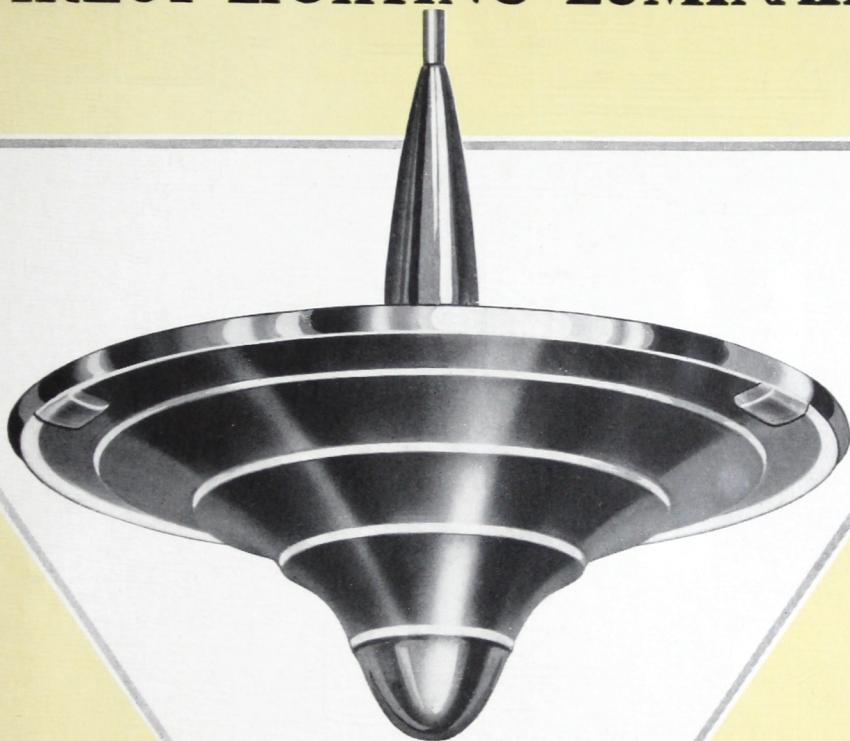
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JUN 19 1935

Curtis

THE STANDARD FOR INDIRECT LIGHTING SINCE 1908

INDIRECT LIGHTING LUMINAIRES



EDGE-RAY
TRADE MARK

Design Registered
Patent Applied For

Curtis Lighting

New York CHICAGO Toronto

Engineers in the Principal Cities

Curtis Lighting—Europe, S. A.
LONDON PARIS ANTWERP

Eye-Comfort Indirect Lighting

Originated by Curtis in 1908

• X-Ray Reflectors were first made in 1897—these were the first one piece silver-mirrored glass reflectors for the scientific control of light.

• The first demonstration of practical INDIRECT LIGHTING was made in 1908 by Mr. Augustus D. Curtis, founder of Curtis Lighting, Inc. The presentation was reported in the American Architect and Building News of November 18, 1908:

"The first public exhibition of a method of Indirect Lighting was given October 15, before the Chicago Branch of the American Society of Illuminating Engineers, at the Chicago home of Mr. Augustus D. Curtis.

The basic principle of this system is the use of a silver-mirrored X-Ray Reflector placed below and around the source of light to shut off all direct rays, but at the same time to reflect light at the proper angle to the ceiling. This results in a well-diffused light, easy on the eyes—reading is possible anywhere in the room. . . . Architects present were pleased with the lighting and called attention to its possibilities."

• Architects who have specified X-Ray Reflectors, and those who have used this reliable product for more than thirty years, will recall the earlier days when indirect lighting was considered an innovation.

• The development of the modern incandescent lamp has made it necessary to conceal the bright light source from view, and has established indirect lighting originated by Mr. Curtis in 1908, as the accepted standard for well lighted interiors.

• Today, as in the past, Curtis Lighting stands for high-efficiency illumination from concealed sources. A complete lighting service is offered. Standard or specially designed luminaires are available, as well as X-Ray Reflectors for coves, cornices, or "built-in" lighting.

• Curtis Designers and Engineers are pioneers in their specialty field and capable of planning the latest methods for all types of interiors. For several years Mr. Walter Kantack has acted as consultant on design, cooperating with Curtis artists.

• Curtis luminaires and X-Ray Reflectors are produced by a trained and experienced organization with factories in the United States, Canada, and Europe. Curtis Lighting products are used in all cities of the world and are available through the electrical trade everywhere.

X-Ray Reflectors, Curtis luminaires, and other products shown in this handbook are covered by United States and Foreign patents owned exclusively by Curtis Lighting, Inc.

All designs shown in this book are registered and protected with the Artistic Lighting Equipment Association, and with the Code Authority of the Artistic Lighting Equipment Manufacturing Industry under Article VIII, Rule XIV of the Industry Code.



THIS picture shows one of the early installations of Curtis Indirect Lighting, with a record of over 25 years of continuous and satisfactory service.

Until 1908, chandeliers were made with clusters of bare or shaded lamps. With the introduction of Indirect Lighting, the arms of these fixtures were "turned up" and the sockets fitted with "adapters" containing powerful silver-mirrored X-Ray Reflectors. These were the first indirect lighting luminaires.

Curtis Luminaires are equipped with genuine **X-RAY
Reflectors** "The Standard for lighting since 1897!"

This is Handbook "H"
Serial No. 808



Old
Style
Lighting



These pictures taken in the same room before and after Curtis Indirect Lighting was installed, show the marked difference between good lighting (above) and poor lighting (below) as seen through the "eye" of the camera.

INDIRECT LIGHTING—the accepted efficient method of scientific illumination, conceived, developed and advanced to its present perfected state through twenty-eight years of effort on the part of an organization highly specialized in its field.

↑
New—
Curtis
Lighting

Curtis Lighting

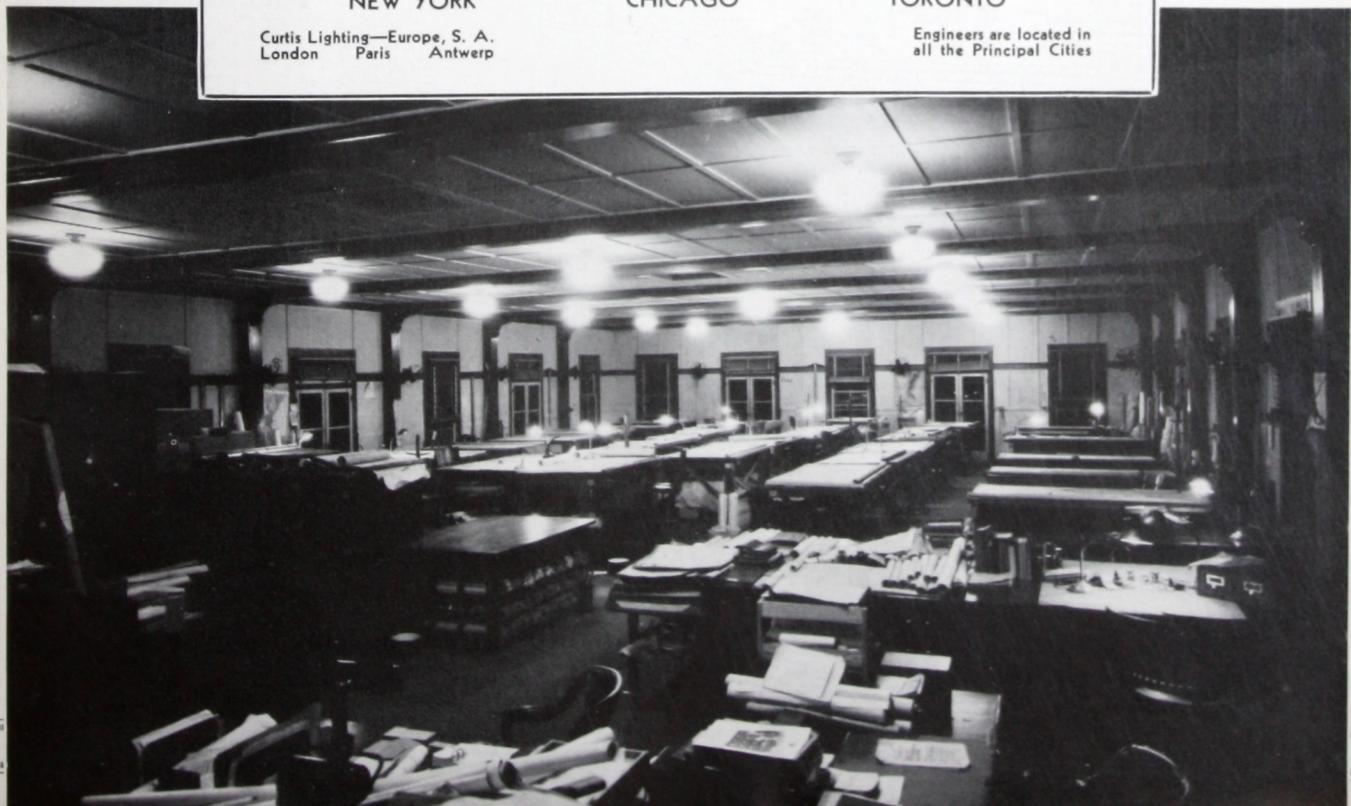
NEW YORK

CHICAGO

TORONTO

Curtis Lighting—Europe, S. A.
London Paris Antwerp

Engineers are located in
all the Principal Cities



Planning Indirect Lighting

FOLLOWING are simple suggestions for planning indirect lighting using pendant luminaires (fixtures). While structural features such as arrangement of columns, beams, etc., will often determine the location and spacing of outlets, this simple method makes it easy to plan indirect lighting with Curtis "Eye-Comfort" Luminaires.

1. First determine the intensity required. (See Standards of Illumination table at right.)
2. In table below, find area (or approximate area) per outlet. Watts required per outlet is indicated to the right of this area under the intensity of light you require.

Table to Quickly Determine Wattage Per Outlet

Height of ceiling and arrangement of columns or beams in ceiling, determine location of outlets. The areas indicated are the largest that should be lighted from each fixture.

Average Area per Outlet in Square Feet	Ceiling Height	Watts per Outlet to Produce 6 to 10 Foot-Candles	10 to 15 Foot-Candles	15 to 25 Foot-Candles
81	9 ft.	...	200	300
100 to 144	9'5" to 11'0"	200	300	500
169 to 225	11'5" to 15'0"	300	500	750
256	16 ft.	500	750	1000

Length of Hanger for Various Ceiling Heights

The regular suspension (length of hanger) is indicated for each luminaire. If necessary, this can be easily shortened on the job. (Curtis stem hangers require no threading.) Longer hangers supplied when required at slight extra cost.

Ceiling Height of Room	Average Spacing Between Outlets	Suspension Top of Bowl to Ceiling	Ceiling Height of Room	Average Spacing Between Outlets	Suspension Top of Bowl to Ceiling
9'	9'	24"	11'5"	13'	34"
9'5"	10'	26"	12' to 13'	13'	36"
10'	11'	28"	14'	14'	36"
10'5"	12'	30"	15'	15'	42"
11'	12'	32"	16'	16'	42"

Color of Ceiling

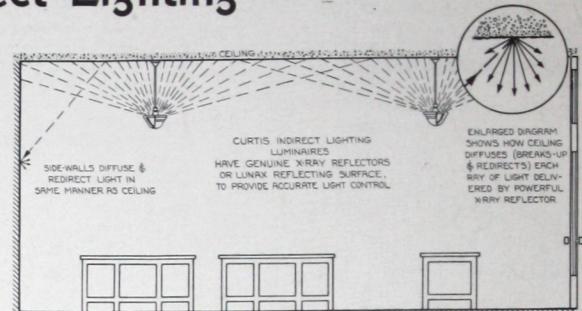
For best lighting results the color of the ceiling should be in either an Ivory, White, or Light Cream (mat finish preferred). The upper walls should preferably be light in color as this has a direct bearing on the efficiency of the lighting system. The following table indicates percentage of light reflected by various colors.

Color	Reflection Factors	Color	Reflection Factors
Flat White	82%	Light Gray	60%
Ivory-White	78%	Light Green	55%
Cream	74%	Buff	55%
Caen Stone	70%	Tan	40%
Ivory Tan	65%	French Gray	35%

Avoid Lighting Losses—Provide Adequate Wiring

Every 1% drop in voltage at lamp socket decreases light output of lamp about 3.5%. This means an increase in the cost of the light delivered, hence these suggestions:

- (1) Lamps used should be rated at voltage corresponding to that at the lamp socket. (Continued in column at right)



This diagram explains the principle of indirect lighting

Standards of Illumination

For Interior	Foot-Candles Recommended	For Interior	Foot-Candles Recommended
Art Galleries: General	10	Hotels: Lobbies	8
On Paintings	25-100	Libraries	15
Auditoriums	5-8	Museum: General	5-10
Automobile Show Rooms	10-20	Special Exhibits	25-100
Bank Cages	15-25	Offices: Close Work..	15-25
Barber Shops	10-20	General Space	10-15
Churches	3-8	Restaurants	8
Sunday Schools	8	Schools: Class Rooms	15
Club Rooms	5-12	Sight-saving Classes	50
Court Rooms	10	Stores	10-20
Draughting Rooms	25-50	Theatres	3
Hospitals: Wards	8	Lobbies	12
Laboratories	15		

Avoid Lighting Losses (Continued from Column at left)

(2) The initial capacity of branch circuits should be sufficient to fit each socket with lamp of higher wattage (for higher intensity of illumination if needed later on) without overloading the circuit.

(3) For runs of more than 50 feet from the panel board to the first outlet, No. 10 wire should be used and No. 12 between outlets. Panel boards should be relocated or additional ones added if the run exceeds 100 feet from the panel board to first outlet. Where such runs cannot be avoided, No. 8 wire should be used. Long runs are not practical. Where possible use more panels and limit circuits to 1000 watts.

Lighting Terms

Light is measured by an instrument known as a "Sight-Meter," "Foot-Candle Meter" or "Illuminometer." The "Sight-Meter" shown at the right is a compact little instrument that instantly indicates the amount of light in units called Foot-Candles.

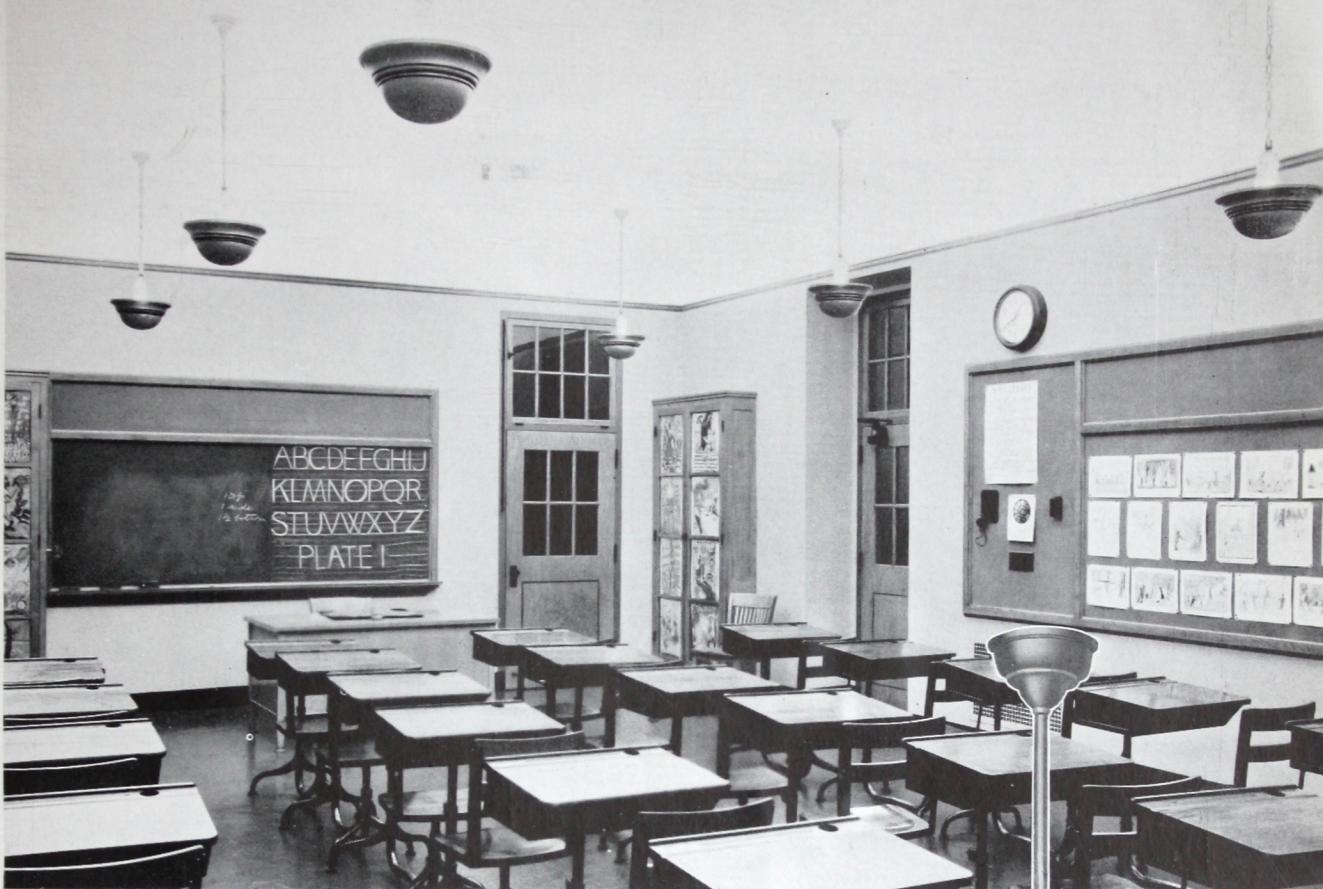
CANDLE POWER—is the standard unit for measuring the intensity of light in any given direction—not used for measuring total light output, nor for rating large lamps.

FOOT CANDLE—the standard unit for measuring the intensity of light on a surface. One foot candle is the intensity produced on surface one foot distant from light source of one candle power.

LUMEN—is the standard unit for measuring the quantity of light. . . . The total light output of lamps is expressed in lumens, and their efficiency in the number of lumens produced per watt of current consumed.

WATTS—Lamps are rated in watts to indicate the power they consume. The cost of operation is figured in Kilowatt Hours, one kilowatt hour being equal to the burning, for example, of one watt for 1000 hours or 100 watts for 10 hours.





TESTS prove conclusively that better light means better sight and increased knowledge for the alert as well as the backward pupil; also, that good lighting pays for itself in a very short time, because it reduces the number of failures.

In two sixth grade rooms at Tuscumbia, Alabama, tests (over a period of two years) showed only 2 failures per term out of a class of 36 pupils under Curtis indirect lighting, as compared with 11 failures out of a class of 34 under their old lighting. Based on their cost of \$28.00 per term for educating each pupil, the saving (even after deducting increased cost for current) amounted to \$229.65 per room per term.

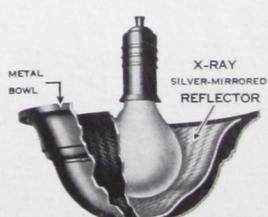
Design 6110

Made of Steel. Standard Finish: Washable Ivorytone
Items marked (•) are available for quick delivery

Catalog No.	Code Name	Lamp (Watts)	Hanger		Bowl		Finish
			Type	Susp.	Diam.	Depth	
• 6100	Opal	500 or 300	Chain	36"	14"	6 $\frac{5}{8}$ "	Washable Ivorytone No. 45
• 6110	Lapis	500 or 300	Stem	36"	14"	6 $\frac{5}{8}$ "	
• 6200	Plasma	750 to 1500	Chain	42"	19"	8 $\frac{1}{2}$ "	
• 6210	Moonstone	750 to 1500	Stem	42"	19"	8 $\frac{1}{2}$ "	

Stem hangers can be shortened on the job as easily as chain—no threading necessary. Canopy has "knock-out" for pull switch, if required. See page 25 for details on "self-aligning canopy fitting."

Also available with Chain Hanger





used in
Curtis Luminaires

THE first Curtis indirect lighting luminaires were made in 1908. They were fitted with genuine X-Ray Reflectors. Experience and research of more than a third of a century have continuously brought marked improvements in X-Ray Reflectors and Curtis Luminaires. Today as in the past Curtis Lighting offers a product of unequalled efficiency.

Luminaires of size and shape similar to Curtis creations might appear equally good when newly installed and tested, but the permanent efficiency and durability can only be determined by accelerated tests. Curtis engineers will gladly give suggestions for conducting such tests.

Reflection Factors

New material—also after cleaning following three months' service

MATERIAL

REFLECTION FACTOR

X-RAY SILVERED GLASS	NEW	93%
	AFTER 3 MONTHS	93%
LUNAX ON ALUMINUM POLISHED	NEW	85%
	AFTER 3 MONTHS	85%
LUNAX ON ALUMINUM SATIN (ETCHED)	NEW	80%
	AFTER 3 MONTHS	80%
ORDINARY ALUMINUM POLISHED	NEW	70%
	AFTER 3 MONTHS	60%
ORDINARY ALUMINUM ETCHED	NEW	84%
	AFTER 3 MONTHS	65%

Each X-Ray Reflector is made of a special grade of thin, tough, clear crystal glass. This is mirrored with *pure silver* because silver has the highest rated efficiency of any material used in the manufacture of reflectors. The silver is completely protected by the glass on the inside and the "Golden Armor" on the outside.

"Golden Armor" is more than a color, or a dress for the outer side of the reflector. It is a scientific process perfected in the Curtis Research Laboratories to keep the silver bright—always good as new.

X-Ray Reflectors need not be removed for cleaning. Like the shining of a mirror, dust and smoky-film may be removed by simply wiping with a damp cloth. This quickly cleans the reflector and brings it back to its original efficiency.

Careful construction, durable attractive finishes, with features that reduce cost of installation and



"Standard for Indirect Lighting Since 1908"

maintenance are incorporated in every Curtis Luminaire. These important considerations insure the user of continuous, satisfactory service.

Always insist on genuine Curtis indirect lighting luminaires!



To supplement the extensive line of Curtis Luminaires produced with X-Ray Reflectors, Curtis Lighting, Inc., has been licensed under certain patents to produce lighting equipment employing a newly developed reflecting surface. The trade name for such Curtis equipment is "Lunax."

Lower in reflecting efficiency than X-Ray Reflectors, this new reflector (produced on a special grade aluminum) is efficient, durable and permanent.

"Lunax" does not deteriorate. Ordinary aluminum, the original reflection factor of which varies with the grade of metal, rapidly depreciates in efficiency. The tables at left show that "Lunax" maintains its original brightness, while ordinary aluminum quickly deteriorates as much as 30% from original efficiency (from tests and figures approved by Aluminum Company of America, New Kensington, Pa.). This is an important factor to consider when buying lighting equipment. Curtis Luminaires made of "Lunax" cost little more than ordinary aluminum fixtures.

When you buy Curtis Luminaires made of "Lunax" or fitted with X-Ray Reflectors you may be assured of permanent efficiency.

Insist on Genuine Curtis Luminaires!

All Curtis Luminaires use standard lamps (bulbs) which are immediately available in every community. Beware of claims made for inferior equipment. The "trick" of using special or over-rated lamps often fools the buyer.

The economy of using standard lamps, coupled with the high efficiency of X-Ray Reflectors and "Lunax" both initially and after long service, means, therefore, that Curtis Luminaires deliver *more light for the same operating cost, or the same light at a lower cost!*

Do not be misled by out-of-scale distribution curves or extravagant claims. Call in the lighting man of your local Power Company before you buy, as you can be sure of his sincere interest in helping you to secure the most light for the current you pay for. Usually a visual comparison alone is sufficient to convince the observer of the superiority of the Curtis product.

Leading electrical houses in every community recommend and supply Curtis equipment wherever efficiency, precise light control and permanence of these qualities are required.

THESE two pictures show the poor impression made by harsh, glaring, inadequate lighting as compared with the pleasing, restful effect of good lighting after the installation of Curtis Eye Comfort Luminaires in the same store.

A distinctive atmosphere is created—the store appears larger and more inviting. The merchandise is more attractive, selections are made quicker and sales closed faster. Customers enjoy shopping and clerks are more pleasant and efficient when seeing is improved by Eye Comfort Lighting.



Design 5500

Made of "Lunax" Aluminum Std. Finish: Polished "Lunax"
Items marked (•) are available for quick delivery.

Catalog No.	Code Name	Lamp(Watts) Inside Frosted	Susp.	Bowl Diam.	Depth	Finish
Opaque Bowl						
• 2200	Eclipse, Jr.	200	30"	16"	4 1/4"	Polished "Lunax" No. 53
• 5500	Eclipse	500 or 300	36"	19 1/8"	5 1/2"	
• 7500	Orbit	750 to 1500	42"	24"	7 1/2"	
Luminous Bowl						
• 2205	Halo, Jr.	200	30"	16"	4 1/8"	Polished "Lunax" No. 53
• 5505	Halo	500 or 300	36"	17 3/4"	5 3/8"	

Stem hangers easily shortened on the job—no threading necessary. Self-aligning fitting in canopy insures luminaires hanging "true." If canopy switch is required see page 25.

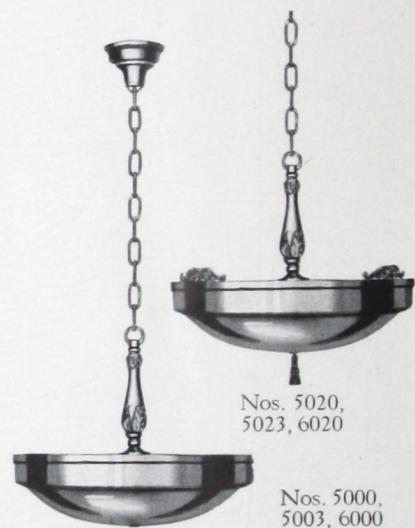


This luminaire has "Lunax" reflecting surface. . . . Opaque type has bowl made entirely of "Lunax" Aluminum. . . . Luminous type has opal glass upper bowl, with the rounded cup at the bottom made of "Lunax" Aluminum.



Nos. 5103, 5104,
5106, 5107

OFFICE Managers endeavor to provide an efficient arrangement of desks and equipment which also creates a favorable impression on visitors. This is made possible only by indirect lighting, which insures a uniform distribution of light throughout the entire office space—no glare—no shadows. As modern buildings usually have adequate lighting, tenants in older quarters will move, or insist on up-to-date improvements. Surprising results are had by redecorating and relighting with Curtis indirect equipment. Such changes can be made at relatively small expense.



Design 5104

Made of Brass. Available in Two Finishes
Suspension: Luminaires using 200 watt lamps 40°, others 36°.
Items marked (•) are available for quick delivery

Catalog No.	Code Name	Lamp (Watts)	Bowl Diam.	Depth	Finish
With Reeded Stem Hanger					
5103	Chloe	3—150 or 100	15½"	4½"	Two-tone
5106	Clios	3—200	19"	6¼"	Bronze No. 43
• 5104	Celtis	3—150 or 100	15½"	4½"	Antique
• 5107	Circe	3—200	19"	6¼"	Silvertone No. 44
With Chain Hanger					
• 5000	Sapphire	2—150 or 100	15½"	4½"	Antique
• 5003	Pearl	3—150 or 100	15½"	4½"	Silvertone No. 44
• 6000	Coral	3—200	19"	5½"	
With Chain Hanger, Ornamented Bowl					
• 5020	Amarine	2—150 or 100	15½"	4½"	Antique
• 5023	Yuklas	3—150 or 100	15½"	4½"	Silvertone
• 6020	Sardonyx	3—200	19"	5¾"	No. 44

These luminaires are fitted with genuine "X-Ray" Reflectors. Lamps burn in horizontal position.

Stem hangers can be shortened on the job as easily as chain—no threading necessary. See page 25 for details on "self-aligning" canopy fitting. Canopy of luminaires with chain hanger has "knock-out" for pull switch. If required for stem hanger type see page 25.

DIStINCTIVELY new and delightfully modern in feeling — the new Curtis "Edge-Ray" indirect lighting Luminaires. Appropriate for plain or ornate interiors.

Perfection of "Lunax" as a reflecting surface now makes this new principle in luminaire design practical.

The luster and beauty of this unit is produced by reflecting a bit of light from the outer edge of the bowl. So nicely is this small amount of light controlled, that no part of it escapes to cause glare . . . from this feature comes the name

EDGE-RAY
TRADE MARK

Design Registered
Patent Applied For



As seen from below, "Edge-Ray" Luminaires convey the impression of luminous concentric rings radiating from a polished "jewel-like" center.



THE simple, "two-piece" construction of this new indirect lighting luminaire results in a graceful and attractive bowl. The top-edge reflector-ring is attached to the bowl in such a way as to reflect the necessary light downward and inward. The entire body of the luminaire is softly lighted. An entirely new conception, used exclusively on Curtis "Edge-Ray" Luminaires for illuminating the bowl.

Design 1250

Made of "Lunax" Aluminum. Standard Finish: Polished "Lunax"

Items marked (•) available for quick delivery

Catalog No.	Code Name	Lamps (Watts)	Bowl		Susp.	Finish
			Diam.	Depth		
• 1200	Edge-Mere	200	17"	6"	30"	Polished
• 1250	Edge-View	500 or 300	21 3/8"	8"	36"	"Lunax"
• 1270	Edge-Wood	750 to 1500	27 1/2"	11"	48"	No. 53

Stem hangers easily shortened on the job—no threading necessary. Self-aligning fitting in canopy insures luminaires hanging "true." If canopy switch is required see page 25.

Designed by Walter Kantack and made with diffuse "Lunax" reflecting surface.



NOTICE the compact efficient arrangement of desks and office equipment. Curtis Indirect Luminaires provide plenty of comfortable, evenly diffused light to perform the varied tasks at high efficiency.

Lighting carefully planned as in this office reduces the amount of "time out." All irritating glare either from lighting units or specular reflection from the tops of desks or paper has been eliminated, thus helping to reduce nervous, muscular tension to a minimum. Shadows are practically eliminated.

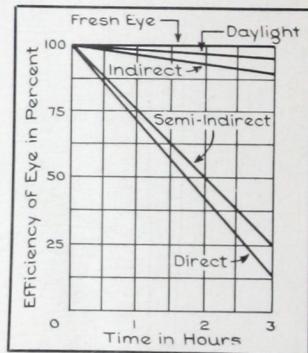


Chart of three-hour test by two eminent scientists shows how indirect lighting compares most favorably with daylight.

Curtis Lighting is
"Daylight Continued."

OFFICE rent is figured at a price per square foot. Poor lighting requires the arrangement of furniture according to location of lighting units, and often results in considerable wasted space. Curtis indirect lighting insures a uniform distribution of light throughout the entire office space, without shadows, making possible suitable arrangement of desks. Eye strain caused by glare is eliminated and errors reduced to a minimum.



This luminaire is fitted with genuine "X-Ray" Reflector

Design 5871

For 500 or 300 Watt Lamp

Reeded Stem Hanger. Items marked (•) are available for quick delivery

Catalog No.	Code Name	Susp.	Bowl		Made of	Finish
			Diam.	Depth		
5870	Ariel	36"	18"	7 1/4"	Alum.	Satin Aluminum No. 50
• 5871	Muriel	36"	18"	7 1/4"	Alum.	Polished Aluminum No. 52
5872	Sorel	36"	18"	7 1/4"	Brass	Two-tone Bronze No. 43

Stem hangers easily shortened on the job—no threading necessary. Self-aligning fitting in canopy insures luminaires hanging "true." If canopy switch is required see page 25.

Better Lighting Means Better Business!

*In schools it means fewer failures; in stores—
more sales; in offices—the capacity to perform
more work with greater speed and accuracy.*

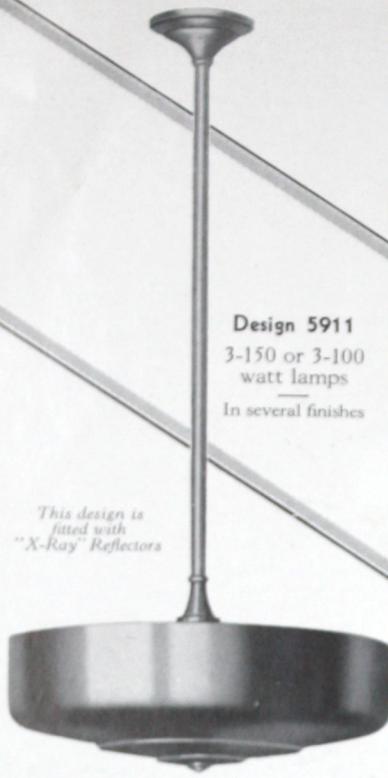
THESE pictures give an excellent idea of the improvement good lighting provides in various places. The top picture shows pleasing lighting for restaurants, clubs and hotels using No. 9100 luminaires, which may have white or color lighting on the upper bowl (see page 14).

- Draughting is perhaps the most trying kind of eye-work, hence the need for high intensity lighting without glare—as near daylight in quality as possible. Curtis Indirect Lighting is "Daylight-Continued."
- Merchants are light-conscious. Even the smaller shops find that indirect lighting gives them the "big-store-impression."
- Hospitals require lighting that is not irritating to the nervous system. Indirect lighting, because of its uniform diffusion and lack of glare, aids convalescence. Curtis Lighting is the logical light for the sick-room.
- Museums and art galleries require the best in illumination. Curtis lighting may be planned in several ways, (see pages 21 to 24) direct, indirect or special directional lighting.

Curtis lighting may be planned using pendant luminaires, or X-Ray Reflectors concealed in cornices, pedestals or coves, or recessed above glass panels. (See pages 21 to 24.) Such lighting should be studied when the structure or alterations are being planned to insure the best results.

Curtis engineers will gladly assist you plan your lighting.





Design 5911

3-150 or 3-100
watt lamps

In several finishes



Design 1190

Three sizes

200 watts

500 or 300 watts

750 to 1500 watts

Finish:
Satin "Lunax"



Design 7310

500 or 300 watts

May be had with
Chain or Stem hanger

Finish:
Washable Ivorytone

Catalog Numbers, Dimensions and Finishes

Items marked (*) are available for quick delivery.

Catalog No.	Code Name	Lamp (Watts)	Hanger	Made of	Finish
Design 1190 (Center)					
No. 1190	Trump	500 or 300	Stem	No. 1192	No. 1192—dia. 13½", depth 4½". Susp. 30"
* 1192	Euchre	200	Stem	No. 1194	No. 1194—dia. 24", depth 7½". Susp. 42"
* 1194	Casino	750 to 1500	Stem		
					{ "Lunax" Alum.-num }
					{ Satin "Lunax" No. 54 }

Design 5911 (Left)

Bowl diameter 15½", depth 4½". Suspension 30"				
5910	Armot	3-150 or 100	Stem	Alum. Satin Aluminum No. 50
* 5911	Arion	3-150 or 100	Stem	Alum. Polished Alum. No. 52
5912	Aloe	3-150 or 100	Stem	Brass Two-tone Bronze No. 43

Design 7310 (Right)

Bowl diameter 18", depth 7". Suspension 36"				
• 7300	Sard	500 or 300	Chain	Steel Washable Ivorytone
• 7310	Sarrod	500 or 300	Stem	Steel No. 45

Stem hangers can be shortened on the job as easily as chain—no threading necessary. Canopy of Nos. 7300 and 7310 has "knockout" for pull switch if required. If other items require pull switch see page 25.

THREE LIGHT LAMP: Where 500 or 350 watt two-circuit (three filament) lamps are to be used, in place of the standard 500 or 300 watt mogul base lamp, a special two-circuit socket (and additional wire) will be substituted at factory at slight extra cost in place of the single circuit mogul socket regularly supplied. Specifications or orders should indicate "with two-circuit socket for three-light lamp."

Lamp Data: Each lamp provides three intensities, thus: 500 watt lamp—(1) 200 watts (2) 300 watts, (3) total 500 watts. The 350-watt lamp—(1) 150 watts (2) 200 watts, (3) total 350 watts.

Lacquer Enamel (sprayed) Finishes: Washable and extremely durable.
 IVORYTONE No. 45—light ivory, washable. (One of the most popular finishes.)
 SILVER GREY "S"—bright, very high grade, fine grained aluminum finish.
 DARK BRONZE "T"—an attractive color similar to that of bronze statuary.
 GOLDEN BRONZE "Q"—the same color as the Golden Armor on X-Ray Reflectors

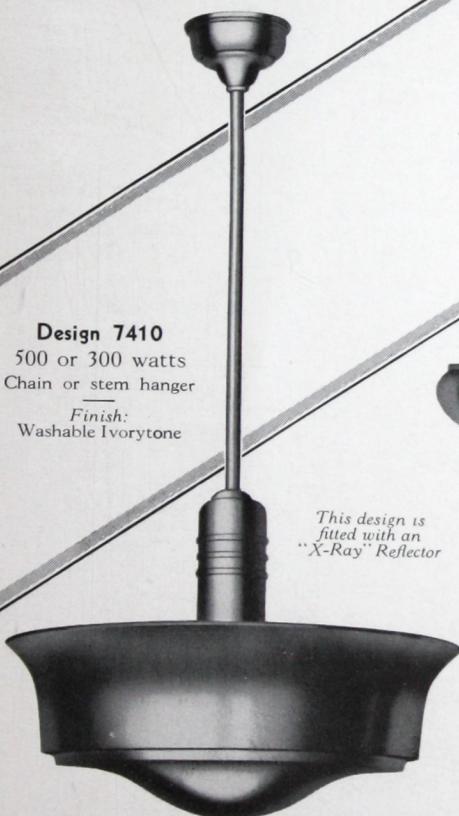
Plated Finishes: Produced by electroplating. (Plated surface is always lacquered to protect it against changes in color which would otherwise develop).

ANTIQUE SILVERTONE No. 44—two-tone brushed-nickel finish with a distinct grain and individuality.

TWO-TONE BRONZE No. 43—shaded medium bronze.

LIGHT BRONZE No. 318-S—natural "bank" bronze.

SATIN SILVERTONE (No. 46)—brushed and lacquered cadmium on steel. The color and texture is like Aluminum.

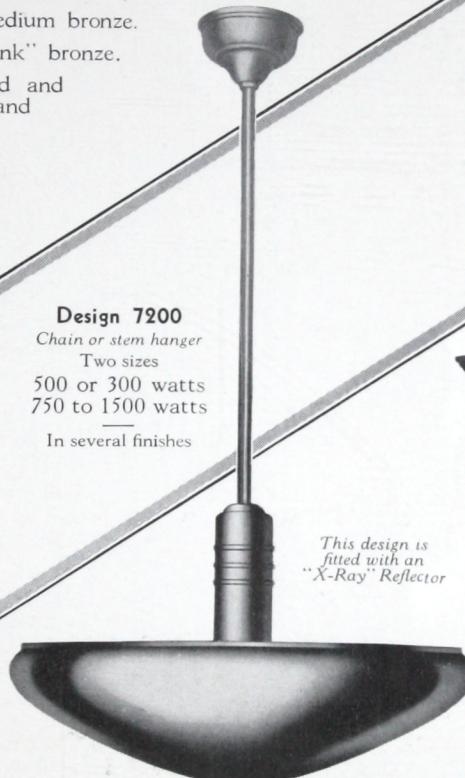


Design 7200
Chain or stem hanger

Two sizes
500 or 300 watts
750 to 1500 watts
In several finishes

Design 5921
3-150 or 3-100 watt lamps
In several finishes

This design is fitted with "X-Ray" Reflectors



Design 7410
500 or 300 watts
Chain or stem hanger

Finish:
Washable Ivorytone

Catalog Numbers, Dimensions and Finishes
Items marked (•) are available for quick delivery.

Catalog No.	Code Name	Lamp (Watts)	Hanger	Made of	Finish
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Design 5921 (Right)					
Bowl diameter 16½", depth 4¾". Suspension 30".					
5920	Diana	3-150 or 100	Stem	Alum.	Satin Aluminum No. 50
• 5921	Dido	3-150 or 100	Stem	Alum.	Polished Aluminum No. 52
5922	Dione	3-150 or 100	Stem	Brass	Two-tone Bronze No. 43

Design 7200 (Center)					
Bowl diameter 19¼", depth 5¾". Suspension 36".					
• 7200	Carnelian	500 or 300	Stem	Steel	Washable Ivorytone No. 45
7202	Cosmos	500 or 300	Stem	Brass	Two-tone Bronze No. 43
• 7210	Cacus	500 or 300	Chain	Steel	Washable Ivorytone No. 45
Bowl diameter 26", depth 7¾". Suspension 42".					
• 7250	Argus	750 to 1500	Stem	Steel	Washable Ivorytone No. 45
7252	Lotus	750 to 1500	Stem	Brass	Two-tone Bronze No. 43
• 7260	Argon	750 to 1500	Chain	Steel	Washable Ivorytone No. 45

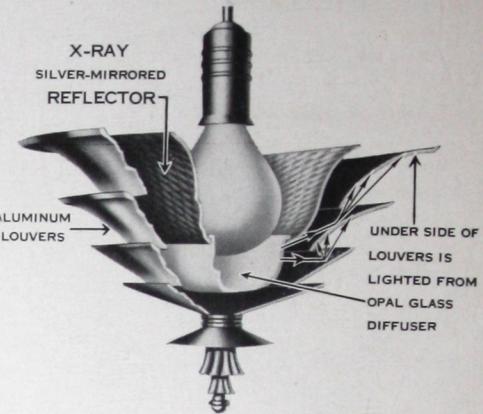
Design 7410 (Left)					
Bowl diameter 18", depth 6¾". Suspension 36".					
• 7400	Beryl	500 or 300	Chain	Steel	Washable Ivorytone No. 45
• 7410	Berod	500 or 300	Stem	Steel	Washable Ivorytone No. 45

Curtis Luminaires are substantially made and have many features that reduce cost of installation and maintenance—they will pass rigid electrical inspection everywhere!

All stem hangers have self-aligning fitting in the canopy, so that they hang straight (plumb), even if the outlet box or stud is crooked (see diagram on page 25).

Designs 7410 and 7200 have "knockout" in canopy for pull switch if required. If other items require pull switch, see page 25.

CURTIS louvered indirect luminaires are fitted with X-Ray Reflectors. This is the secret of their efficiency and durability. The underside of the louvers, or segments, is lighted to a low intensity by an opal glass diffuser (see illustration at right).



Design 9000

Diameter 18½"
Depth 7½"

500 or 300 watts

Finish:
Satin Aluminum

This design is
fitted with an
"X-Ray" Reflector

Design 9100

Diameter 18½"
Depth 8½"

500 or 300 watts
Finish:
Satin Aluminum

This design is
fitted with an
"X-Ray" Reflector

Design 9710

Diameter 24"
Depth 12½"

750 to 1500 watts
Finish:
Satin Aluminum

A high-grade heavy gauge aluminum suitably finished and lacquered, characterizes Curtis louvered luminaires. They should not be confused with ordinary louvered fixtures of flimsy construction which have no reflector for the control of light. The efficiency of ordinary aluminum fixtures (sanded or etched) depreciates rapidly—often as much as 30% in three months (see page 5). Insist on genuine Curtis Luminaires and utilize all the light you pay for.

Catalog Numbers, Dimensions and Finishes

Items marked (•) are available for quick delivery.

Catalog No.	Code Name	Lamp (Watts)	Hanger	Made of	Finish
Design 9000 (Left)					
• 9000 Jade	500 or 300	Stem Alum.			
Design 9100 (Center)					
• 9100 Jasper	500 or 300	Stem Alum.		Satin Aluminum No. 50	
Design 9710 (Right)					
• 9710 Janus	750 to 1500	Stem Alum.			
SUSPENSION—500 or 300 watt size 36". 750 to 1500 watt size 48".					

Stem hangers are easily shortened on the job—no threading necessary. Self-aligning fitting in canopy insures luminaires hanging "true."

Color Effects: The upper louvers or segments of these Curtis luminaires may be tinted with pastel tones of colored light by placing color "diffusers" in the bottom of the X-Ray Reflector. The color of the room illumination is not changed. Four colors are available: SUNSET ORANGE—particularly liked by men. Suggested for men's clubs, shops; restaurants . . . LIGHT ROSE—appropriate for women's shops, beauty salons, tea rooms; also night clubs. . . . PEACOCK BLUE—suggests coolness. Recommended for refrigerator and wintry displays. . . . NEW GREEN—used in warm weather or for interiors requiring cool, pleasing atmosphere.

Color	Cat. No. of Diffuser	Lamp Size of Luminaire
Light Rose	{ 10378 10378-A	500 or 300 watts 750 to 1500 watts
Sunset Orange	{ 10379 10379-A	500 or 300 watts 750 to 1500 watts
Peacock Blue	{ 10380 10380-A	500 or 300 watts 750 to 1500 watts
New Green	{ 10381 10381-A	500 or 300 watts 750 to 1500 watts

Color diffusers are supplied on order at slight extra cost.



Design 9700
750 to 1500 watts
(†Ornamented bowl is Cat. No. 9720)

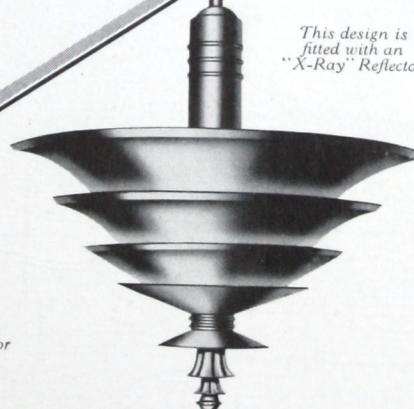
Finish:
Satin Aluminum

This design is fitted with an "X-Ray" Reflector

Design 9400
Diameter 18½"
Depth 12"
500 or 300 watts

Finish:
Satin Aluminum

This design is fitted with an "X-Ray" Reflector



* Design 9105 may be had with opal glass in the lower member by specifying Catalog No. 9106. This luminaire provides a small amount of diffused direct light in combination with the regular indirect illumination and is suggested for stores where dark materials such as rugs and clothing are displayed. The bottom of the opal glass has a star rosette, sand-carved and colored to harmonize with the satin aluminum finish.

Design 9105*

Two sizes
500 or 300 watts
750 to 1500 watts

Finish:
Satin Aluminum



This design is fitted with an "X-Ray" Reflector

Catalog Numbers, Dimensions and Finishes

Items marked (•) are available for quick delivery.

Catalog No.	Code Name	Lamp (Watts)	Hanger	Made of	Finish
					Design 9105 (Right)
• 9105	Aurora	500 or 300	Stem	Alum.	
• 9106	*Axin	500 or 300	Stem	Alum.	
• 9107	Arcturus	750 to 1500	Stem	Alum.	
					Design 9400 (Center)
• 9400	Apatite	500 or 300	Stem	Alum.	
					Design 9700 (Left)
• 9700	Hematite	750 to 1500	Stem	Alum.	
• 9720	†Steatite	750 to 1500	Stem	Alum.	

Design 9105 (Right)

Bowl diam. 18", depth 8"

Satin
Aluminum
No. 50

Design 9400 (Center)

Bowl diam. 18½", depth 12"

Design 9700 (Left)

Bowl diam. 24", depth 15½"

Stem Alum.

† Design 9700 with cast aluminum ornaments applied to the second and fourth louvers and to the lamp neck cover, is Catalog No. 9720.

SUSPENSION—500 or 300 watt size 36". 750 to 1500 watt size 48".

THE acceptance of any new and improved idea always brings an influx of imitators who hope to capitalize on the work of others. Discriminating buyers are seldom fooled. In general appearance an imitation may seem comparable to the product of merit, but careful examination will show them to be of inferior quality—made of light gauge metal, with poor workmanship and finish. Many imitations will not pass rigid electrical inspection.

Curtis Lighting, Inc., has had over thirty-seven years experience in manufacturing durable, efficient lighting equipment. You need go no further than your local source of electrical supply to learn facts about Curtis equipment and the organization back of it. Leading electrical houses in every community recommend Curtis Luminaires and X-Ray Reflectors wherever efficiency, precise light control and quality are demanded.

Design 5070

Two sizes
Chain or Stem Hanger
500 or 300 Watts
750 to 1500 Watts
Finish:
Silver Grey

This design is fitted with an "X-Ray" Reflector

Design 5881
Diameter 18 inches
Depth 7½ inches
500 or 300 Watts

In several finishes

This design is fitted with an "X-Ray" Reflector

Design 5120
Two sizes
500 or 300 Watts
750 to 1500 Watts

Finish:
Satin Aluminum with polished highlights

This design is fitted with an "X-Ray" Reflector

Catalog Numbers, Dimensions, and Finishes

Items marked (•) are available for quick delivery

Catalog No.	Code Name	Lamp (Watts)	Hanger	Made of	Finish
Design 5070 (Left)					
• 5070	Gemrod	500 or 300	Stem	Steel	Silver Grey, "S"
• 5071	Gem	500 or 300	Chain	Steel	"S"
		Bowl diameter 18", depth 9".		Suspension 42"	
• 6060	Julrod	750 to 1500	Stem	Steel	Silver Grey, "S"
• 6061	Jewel	750 to 1500	Chain	Steel	"S"

Design 5120 (Right)

Diameter 18½", depth 10½". Suspension 36"
5120| Eros | 500 or 300 | Stem | Alum. | Satin Aluminum with
Bowl diameter 21", depth 12½". Suspension 48"
5130| Esau | 750 to 1500 | Stem | Alum. | Polished Highlights.

Design 5881 (Center)

Bowl diameter 18", depth 7½". Suspension 36"				
5880 Arabis	500 or 300	Stem	Alum.	Satin Aluminum No. 50
• 5881 Apollo	500 or 300	Stem	Alum.	Polished Alum. No. 52
5882 Arelia	500 or 300	Stem	Brass & Bronze	Two-tone Bronze No. 43

Stem hangers easily shortened on the job—no threading necessary. Self-aligning fitting in canopy insures luminaires of hanging "true." If canopy switch is required see page 25.

The glass bowl of this luminaire is softly illuminated without glare, from the same lamp that provides the indirect lighting. This is a patented feature in Curtis Luminaires and is accomplished by using an opal glass diffuser in the bottom of the X-Ray Reflector as illustrated on page 13.



Indirect Pedestal Lighting

IT is often desirable to illuminate interiors without the use of ceiling fixtures, or to supplement other lighting. Pedestal lighting reduces wiring cost, especially when powerful X-Ray Reflectors are used. Indirect wall urns provide another unique means of illumination. (See page 17.)

Curtis Pedestals are of sturdy construction with heavy bases. Like Curtis Luminaires they have X-Ray Reflectors and provide the same quality of illumination. They are attractively finished. Where ceilings are low and "head room" seems limited, pedestals may be used instead of hanging fixtures. Ceilings seem higher and rooms more spacious. (Other designs on request.)

Catalog No.	Code Name	Lamp (Watts)	Bowl Diam.	Made of	Finish
2660	Pydea	500 or 300	13 $\frac{5}{8}$ "	Steel	Details below
2680	Pythia	3-150 or 100	15 $\frac{1}{2}$ "	Steel	{ Dark Enamel Bronze "T"
2682	Pyrope	3-150 or 100	15 $\frac{1}{2}$ "	Bronze	{ Antique Silver- tone No. 44

Base and stem finished Black. Lower reeded stem and bowl, Silver Grey. May be had finished entirely in Dark Enamel Bronze at same price.



Curtis
Pedestals
are
fitted
with
"genuine"
"X-Ray"
Reflectors

(Above) Cat. Nos. 2680, 2682

(Left) Cat. No. 2660



Indirect Lighting from Wall Urns

Every Wall Urn shown on this page is fitted with an "X-Ray" Reflector



Design 1552
200 Watt
500 or 300 Watt

The reflector is
Golden-Bronze
(also known as
"Golden-Armor.")

Design 1552

Cat. No.	Code Name	Made of	Finish Metal Parts
For 200-Watt Lamp. Width 10 $\frac{3}{8}$ ". Height 10 $\frac{1}{8}$ ". Projects 11". Backplate 4 $\frac{3}{8}$ " x 5 $\frac{3}{4}$ ".			
• 1552	Walra	Steel	Golden Bronze (Q)
1553	Walen	Steel	{ Satin Silvertone with Pol. Brass
1554	Wallace	Brass	Backplate Light Bronze (318-S)
For 500 or 300-Watt Lamp. Width 12 $\frac{1}{8}$ ". Height 13 $\frac{1}{2}$ ". Projects 13". Backplate 4 $\frac{3}{8}$ " x 7".			
1555	Walton	Steel	Golden Bronze (Q)
1556	Walter	Steel	{ Satin Silvertone with Pol. Brass
1557	Walmer	Brass	Backplate Light Bronze (318-S)

The X-Ray Reflectors used in the units listed above, are a special type which keep spill-light off the wall. The 200 watt size is EC-68; the 500 watt size is EC-69.

Items marked (•) available for quick delivery

Design 1541

Cat. No.	Code Name	Made of	Finish Metal Parts
For 200-Watt Lamp. Width 10 $\frac{3}{8}$ ". Height 10 $\frac{1}{8}$ ". Projects 11 $\frac{1}{8}$ ". Diam. of Backplate 4 $\frac{3}{4}$ ".			
1541	Yew	Steel	Golden Bronze (Q)
• 1542	Yewra	Alum.	{ Satin Alum. with Pol. Highlights
1543	Yewso	Brass	Light Bronze (318-S)
For 500 or 300-Watt Lamp. Width 12 $\frac{1}{8}$ ". Height 13 $\frac{1}{2}$ ". Projects 13". Diam. of Backplate 6".			
1544	Yewli	Steel	Golden Bronze (Q)
1545	Yewma	Alum.	{ Satin Alum. with Pol. Highlights
1546	Yewtu	Brass	Light Bronze (318-S)



Design 1541
200 Watt
500 or 300 Watt

The reflector is
Golden-Bronze
(also known as
"Golden-Armor.")



Design 1533
Five Sizes:
100 to 1000 Watts

Design 1533

Catalog No.	Code Name	Lamp (Watts)	Width	Height	Projects	Made of	Finish
1533	Vera	{ 150 or 100	9"	10"	8 $\frac{7}{8}$ "	Steel	Satin
1534	Verna	200	12 $\frac{1}{2}$ "	13"	12 $\frac{1}{4}$ "	Steel	Silvertone
• 1535	Verbena	200	12 $\frac{1}{2}$ "	13"	12 $\frac{1}{4}$ "	Steel (No. 46)	
1536	Verbus	2—200	24"	13"	12 $\frac{1}{4}$ "	Steel	or Dark
1537	Virgil	{ 500 or 300	13"	13"	12 $\frac{1}{2}$ "	Steel	Bronze
1538	Virgine	{ 750 to 1000	16 $\frac{1}{4}$ "	17"	16 $\frac{1}{4}$ "	Steel	Enamel (T)

No. 1535 Finished in Satin Silvertone (No. 46) for quick delivery

Design 1532

Catalog No.	Code Name	Lamp (Watts)	Width	Height	Projects	Made of	Finish
1532	Urban	200	14"	13 $\frac{3}{8}$ "	12 $\frac{7}{8}$ "	Com-	Shaded Sil- ver (H-22) or Shaded Bronze (B-17)

Shaded Old Ivory finish obtainable for No. 1532 at small additional cost

The Wall Urns listed above are fitted with the following X-Ray Reflectors:
No. 1533 has 310-S; No. 1534 has 410-S; Nos. 1535, 1536 and 1532 have
EC-68, a special type of X-Ray Reflector which keeps spill-light off the
wall. No. 1537 has 510-S; No. 1538 has 910-S.



Design 1532
One Size:
200 Watts

Decorative Wall Ornaments

Used as supplement to a general lighting scheme



Cylinder Type

(shown at top of page):

These distinctive modern brackets are used primarily for decorative effect. Cylinders are of dense opal glass and have a low surface brilliance. The modern motif suggested in material and finish makes them suitable for most rooms. Frosted tubular lamps are recommended for best results.



Louvered Brackets

(shown at bottom of page):

These brackets combine indirect lighting with decorative effect, for small rooms, or serve as ornaments with other lighting. The luminous effect on the louver segments harmonizes with luminaires of modern and louvered design. NOTE: Brackets on page 17 are suggested for most efficient general lighting.



Design 1515

Cat. Nos. 1515, 1516
40 or 75 Watt lamp (tubular)
Backplate measures 4" x 17"

Design 1512

Cat. Nos. 1512, 1513
25 Watt lamp (tubular)
Backplate measures 4" x 9 1/2"

Design 1518

Cat. Nos. 1518, 1519, 1520
40 or 75 Watt lamp (tubular)
Backplate measures 2 1/8" x 15 7/8"

The brackets shown above are made of aluminum (unless otherwise specified). Cups supporting glass cylinders made of aluminum or brass are polished for interesting contrast.

Specify By Catalog Numbers Shown Below

Items marked (*) are available for quick delivery

Catalog No.	Code Name	Lamp (Watts)	Projects	Finish
Design 1512 (shown in center at top of page)				
• 1512	Aglia	25 Tubular	2 3/4"	Satin Aluminum No. 50 with Polished Highlights
1513	Alethia	25 Tubular	2 3/4"	Satin Aluminum No. 50 with Polished Brass Cups
Design 1515 (shown at left at top of page)				
• 1515	Acacia	40 or 75 Tubular	2 3/4"	Satin Aluminum No. 50 with Polished Highlights
1516	Achilles	40 or 75 Tubular	2 3/4"	Satin Aluminum No. 50 with Polished Brass Cups
Design 1518 (shown at right at top of page)				
1518	Alecto	40 or 75 Tubular	2"	Satin Aluminum No. 50 with Polished Highlights
1519	Belus	40 or 75 Tubular	2"	Satin Aluminum No. 50 with Polished Brass Cups
• 1520	Brontes	40 or 75 Tubular	2"	Made of Brass finished Light Bronze No. 318-S.

Catalog No.	Code Name	Lamp (Watts)	Projects	Finish
Design 1522 (shown at right at bottom of page)				
• 1522	Epsilon	100	5 1/2"	Satin Aluminum No. 50 with Polished Ornaments
1524†	Erinide	150 or 200	7 1/2"	Satin Aluminum No. 50 with Polished Ornaments
Design 1526 (shown in center at bottom of page)				
• 1526	Epidote	150 or 200	7 1/4"	Satin Aluminum with Light Bronze Ornaments
Design 1528 (shown at left at bottom of page)				
• 1528	Charon	100 or 150	5 5/8"	Satin Aluminum No. 50
1529†	Datura	200	6 1/4"	Satin Aluminum No. 50

† NOTE: Nos. 1524 and 1529 have four steps or tiers instead of three as illustrated.

The brackets shown on this page are not fitted with "X-Ray" Reflectors.

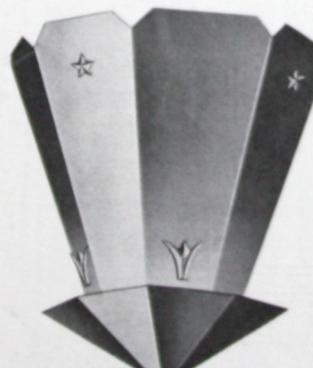
The bracket below is for 100 or 150 watt lamp. The 200-watt size has four steps instead of three as shown.



Design 1528

Cat. No. 1528
(3 steps)
100 or 150 Watt lamp
Width 6 1/8"
Height 10 3/8"

Cat. No. 1529
(4 steps)
200 Watt lamp
Width 6 3/4"
Height 11 1/2"



Design 1526

Cat. No. 1526
150 or 200 Watt lamp
Width 10 3/4"
Height 12 1/8"

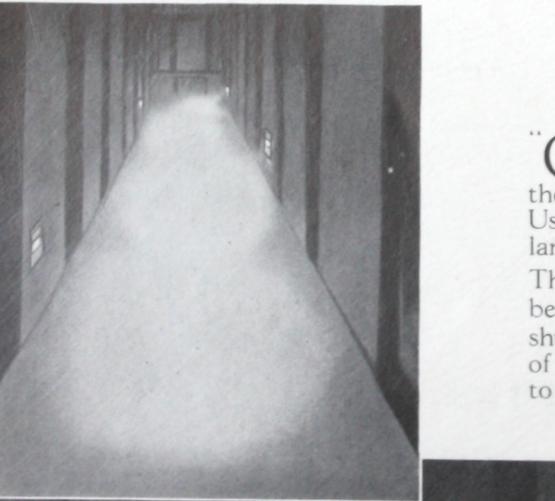
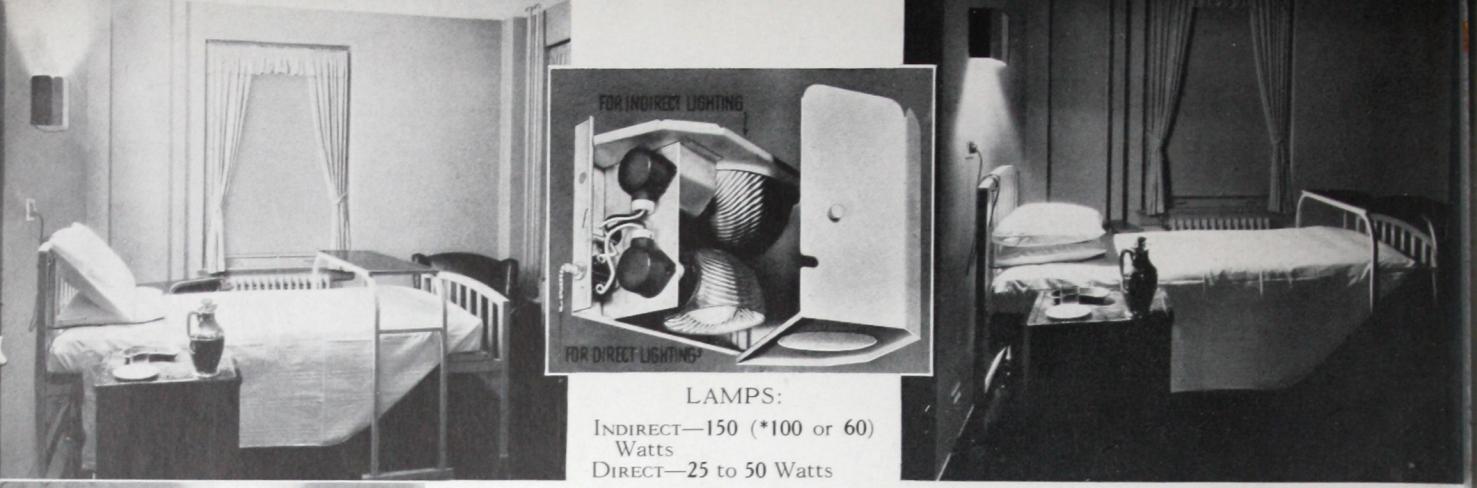
The bracket below is for 100 or 150 watt lamp. The 200-watt size has four steps instead of three as shown.



Design 1522

Cat. No. 1522
(3 steps)
100 Watt lamp
Width 11 3/4"
Height 12 1/2"

Cat. No. 1524
(4 steps)
150 or 200 Watt lamp
Width 15"
Height 17"



"DUA-LIGHT" was originally designed to provide direct or indirect lighting or combination of both for hospitals, but is also used for offices, reception rooms and homes. Reduces cost of wiring . . . saves money . . . endorsed by hospital consultants.

Made of Steel. Front hinged. Equipped with two X-Ray Reflectors. One pull switch included to control direct lighting at unit. Another may be added to control indirect lighting in lieu of wall switch. Distance from floor to center of outlet box in hospitals 78", other interiors 66".

DIMENSIONS: Height 8 $\frac{3}{4}$ ", Width 10 $\frac{3}{4}$ ", Projects 5 $\frac{3}{4}$ ".

FINISH: Zinc-plated, ready to paint same color as wall. Flat surfaces easily stenciled.

*Note: 100 or 60 Watt lamps may be used for indirect lighting in place of 150 Watt lamp.

No. 42 "Dua-Light"

For 15 or 25 Watt Lamp

"GLO-RAY" is a night-light used largely in hospitals enabling nurses to enter rooms at night without turning on the general lighting and thus avoids disturbing the patients. Used also for lighting the corridors and stairways and stair landings in hotels, stores, and other semi-public buildings.

The 3-piece construction is for easy installation. Feed wires can be brought in at top or bottom, or on left or right side. A simple shutter on the back of the small square cover controls the amount of light that passes through the glass window and can be adjusted to a mere glow—hence the name "Glo-Ray."

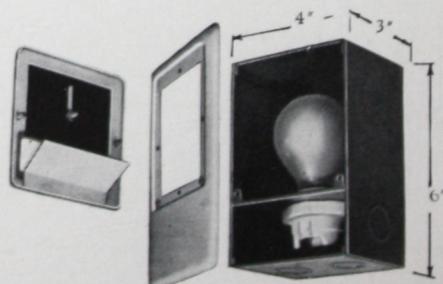
No. 72 "Glo-Ray" are available for quick delivery

This view shows 3-piece construction of "Glo-Ray."

Box is finished Black Enamel, measures 3"x4"x6".

Cover is Zinc plated, ready for painting, and measures 5" x 6 $\frac{3}{4}$ ".

Install approximately 18" above the floor.



Three-piece construction simplifies installation

No. 2000 "Iris"

For 200 watt lamp

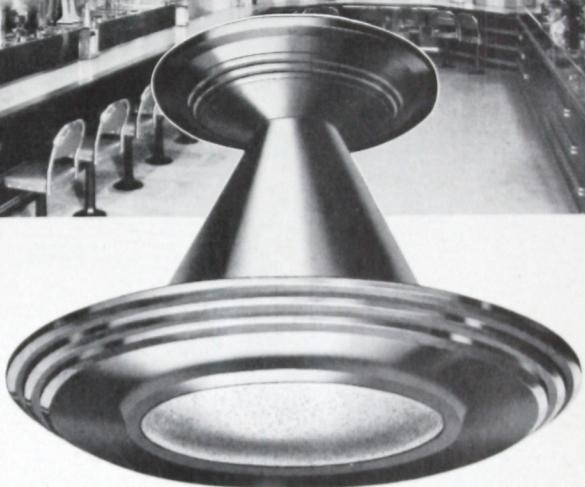
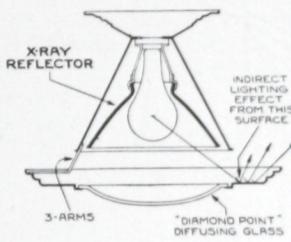
MADE OF ALUMINUM. Diameter 19". Height 14½".
FINISH: Satin Aluminum and Golden Bronze with
Polished Highlights.

MANY merchants in attempting to increase the intensity of light have supplemented their old-style lighting by installing reflectors over the counters. This is not generally recommended, for besides the added cost of new wiring, lamps, and equipment it gives the store a cluttered appearance. This ingenious luminaire obviates the necessity of "makeshifts" by providing a strong direct light downward, with a small amount of indirect illumination on the ceiling.

No. 2000 "Iris" is available for quick delivery.

For general lighting, the spacing of units should not exceed the ceiling height. On ten foot spacing, the average intensity using 200 watt lamp will be approximately fifteen foot candles.

"Iris" is fitted with a genuine X-Ray Reflector for maximum lighting efficiency. The "diamond point" diffusing glass gives a sparkling life to the unit without glare.



Recessed Lighting

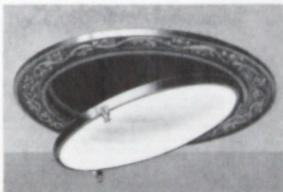
CERTAIN types of interiors are effectively lighted from equipment recessed above the ceiling. This type of lighting is used where suspended fixtures are undesirable or where highly efficient, practical, and economical units are required in interiors of modern design.

A complete line of plain or ornamented units of from 60 to 1500 watt capacity are offered. They may be recessed individually or with several units in a group.

For complete details consult your nearest Curtis Engineer or write Curtis Lighting, Inc., Chicago, and ask for Serial 817.

Recessed lighting units fitted with heat resisting diffusing glass, are available either plain or ornamented. Wire guards, for plain type, are suggested for gymnasiums, swimming pools, stadiums and recreation buildings.

Where space above the ceiling is less than 9 inches, a reflector cannot be used. A new unit requiring only 4" height for recessing is available in three sizes. For one 60 or 75 watt, two 100 watt, or four 100 watt lamps.



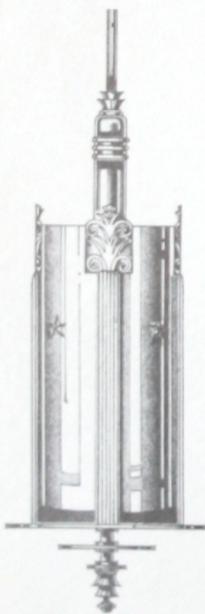
X-Ray Reflectors may be recessed with or without diffusing glass lens.





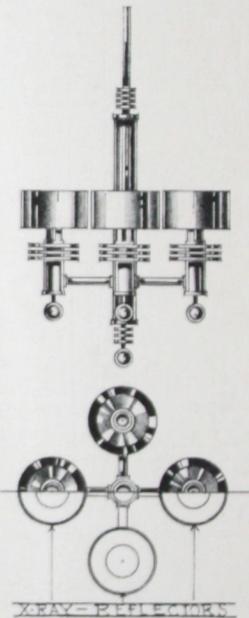
Other Curtis Lighting Equipment

As pioneers of illumination from concealed sources Curtis Lighting has contributed much to the modern trend in architecture, combining scientific light-control with contemporary style. Some of the many ways of providing unusual and effective lighting from concealed sources are briefly described in these pages. Suggestions embodying these and other advanced lighting ideas, often incorporating luminaires of special design for the following classes of interiors, may be had on request:



Armories, Arenas	Laboratories
Art Galleries, Museums	Libraries
Athletic Courts, Fields	Lodges
Auditoriums	Markets
Ballrooms	Night Clubs
Banks	Public Buildings
Barber Shops	Railway Stations
Churches, Chapels	Restaurants
Clubs	Show Windows
Display Rooms	Stages
Factories	Stores, Shops
Hospitals	Theaters
Hotels	

Cooperation in planning your lighting may be had on request to your nearest Curtis Lighting Representative.

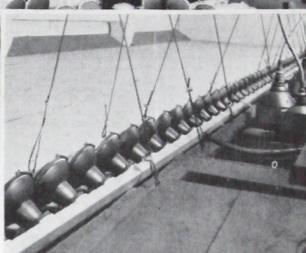




Typical example of Curtis "Built-In Lighting" . . . a combination of cove and panel lighting (white and color effects), that creates the impression of a formal out-door garden.



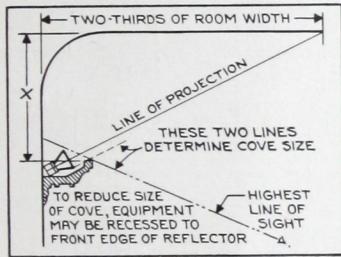
Painted glass side walls are lighted by reflectors concealed behind glass panels, as shown above



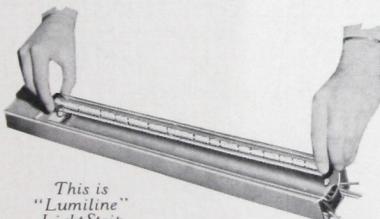
X-Ray Reflectors concealed above the tightly stretched muslin ceiling provide interesting indirect-color-lighting effects.

Built-In Lighting

This is special schedule (SP)



The distance "X" from top of cove to ceiling should never be less than one-tenth of the room width.



This is
"Lumiline"
LightStrip

LightStrip, a compact standardized lighting channel immediately available from local stocks, is often used for panel or recessed lighting. Size 1 1/4" high, 2 1/2" wide—capacity 25 to 150 watts, using tubular lamps.

Cove Lighting—In planning cove lighting, size of cove, complete concealment of equipment, and uniform distribution of light on ceiling are important. Location of reflector and equipment in the cove and line of sight, determine the size of cove, as explained by diagram at left. Wattage should be approximately twice that required for indirect lighting from fixtures, explained on page 3.

Panel and Recessed Lighting—For even lighting on glass panels, spacing between reflectors should not exceed 1 1/2 times the distance from the glass to the center of the lamp. Using flashed opal glass, four watts per square foot of floor area will give an intensity of approximately 6 to 8 foot candles.

Skylight Lighting—See page 23 for suggestions on planning lighting through skylights or lighting from individual ceiling units.

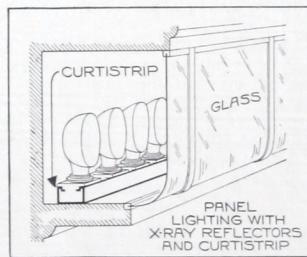
Color Lighting—The wattage for each color employed in color lighting is the same as that used for white lighting. Color lighting is produced from coves and panels by fitting the same reflectors used for white lighting, with natural-colored heat-resisting, non-fading glass. (Color lens units prevent white light leakage). Colors: red, blue, green or amber.



Distributing Types—EC-50 (60-watt), EC-100 (100-watt), EC-150 (150-watt), EC-200 (200-watt).

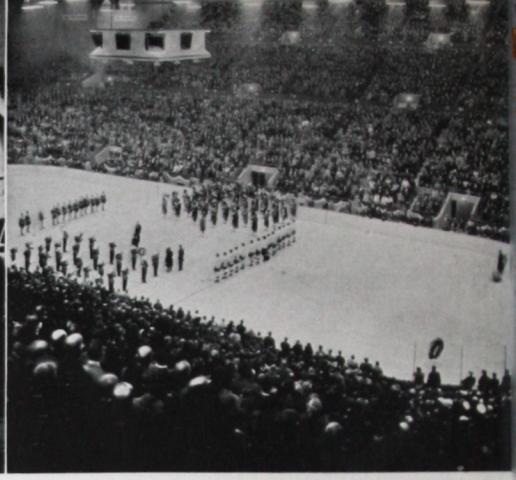
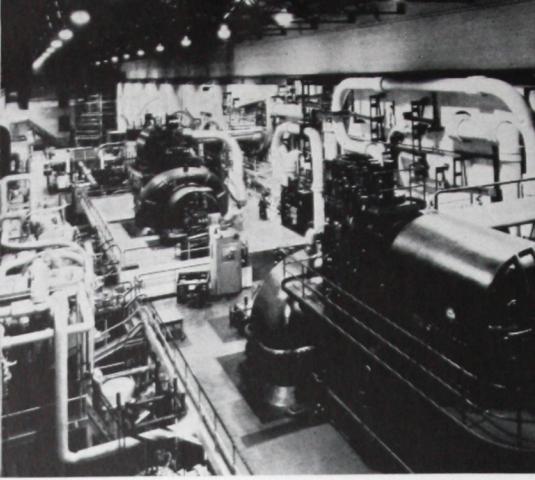
Concentrating Types—EC-52 (60-watt), EC-74 (100-watt).

Use concentrating X-Ray Reflectors where cornices are relatively close to ceiling—EC-52 for small coves and EC-74 for larger coves. Distributing X-Ray Reflectors used for average conditions, can be mounted horizontally or vertically.



One of the many ways in which X-Ray Reflectors are used for panel lighting.

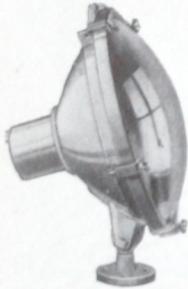




Flood Lighting

This is Schedule "FL" covered by Handbook No. 777

TWO classes of Curtis floodlighting units are available—"low-priced floodlights" and "heavy-duty" floodlights. Low-priced units have a housing made of sheet aluminum specially etched on the inner side to provide a reflecting surface of high efficiency. They can be furnished with or without cover glass and with several types of bases to fit various conditions. X-Ray Reflectors are only furnished with the heavy duty units, the latter being constructed of heavy gauge copper or steel.



Heavy Duty Flood-lights

Made of heavy gauge copper or steel, fitted with genuine X-Ray Reflectors.

"Star" 200-250 Watt
Dia. 13 in., Depth 12 in.

"Moon" 500 Watt
Dia. 17½ in., Depth 13½ in.

"Sun, Jr." 1000 or 750 Watt
Diam. 19 in., Depth 12 in.

"Mars," 2000 Watt
Dia. 23 in., Depth 14½ in.

Low Priced Units

Housing of sheet aluminum specially etched on the inner side to provide a reflecting surface of high efficiency.

"Dwarf" 100 Watt
Dia. 8 in., Depth 9¾ in.

"Pigmy" 200 Watt
Dia. 10½ in., Depth 10½ in.

"Leader" 500-300 Watt
Dia. 13½ in., Depth 17 in.

"Monster" 750 to 1500 Watt
Dia. 17½ in., Depth 21½ in.

Foot Candles and Wattage

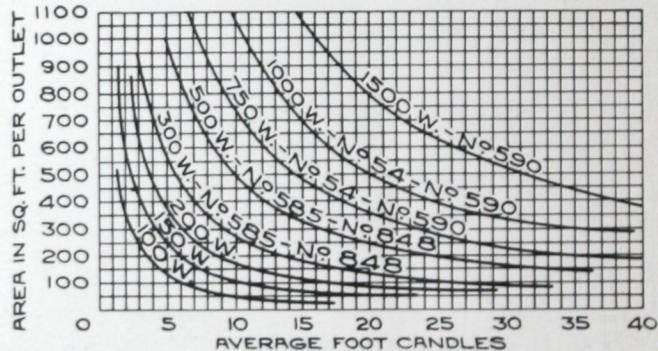
		Watts*
	Foot Candles Sq. Ft.	Foot per
BUILDINGS AND MONUMENTS		
In Bright (Light Surface)	10	2.2
Surroundings (Dark Surface)	20	4.5
In Dark (Light Surface)	6	1.3
Surroundings (Dark Surface)	12	2.5
INDUSTRIAL		
Building Excavation	3	0.5
Gasoline Station Area	4	.8
Parking Space	1	.2
Protective, Industrial	1	.2
RECREATIONAL AREAS		
Baseball	15	3.0
Bathing Beaches	1	0.2
Drill Fields	3	0.5
Golf	10	2.0
Hockey	8	1.5
Playgrounds	4	0.7
Stadiums—Football	12	2.5
Swimming Pools	5	1.2

*NOTE: A depreciation factor has already been allowed in calculating watts per sq. ft.

Direct General Lighting

This is Schedule "XR" covered by Handbook No. 25

CHART below indicates wattage necessary for each outlet of direct lighting. After foot candle intensity has been determined, locate approximate area for each outlet. Follow this line across (right) to the junction of the vertical line corresponding to foot candle intensity required. Curved line nearest this point indicates wattage required and shows catalog number of both distributing and concentrating X-Ray Reflectors.



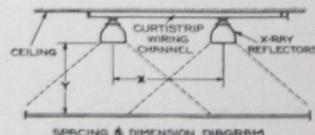
Wattage and Dimensions of X-Ray Reflectors

DISTRIBUTING			SEMI-CONCENTRATING		
Reflector No.	Lamp Size	Minimum Height	Reflector No.	Lamp Size	Minimum Height
3	60 to 75	6½"	590	1500 or 750	26"
535	100	8½"	696	100 or 60	8½"
570	150	10½"	700	150	8¼"
575	200	11½"	710	200	10½"
585	500 or 300	15½"	848	500 or 300	13¾"

Spacing of Outlets

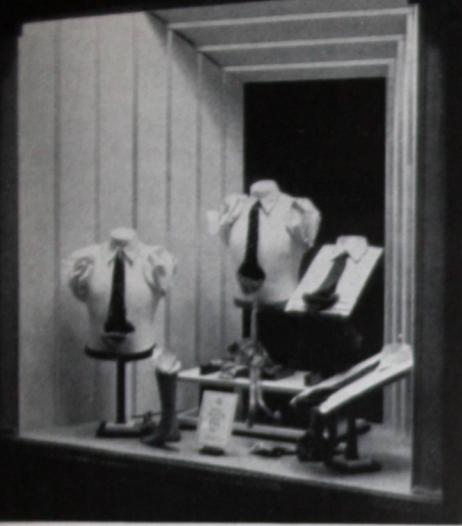
DISTRIBUTING REFLECTORS—Spacing "X" should not exceed 1½ times mounting ht. "Y."

SEMI-CONCENTRATING—Spacing "X" should not exceed ¾ of mounting height "Y."



Recessing Above Skylights or Glass Panels

Where reflectors are mounted above glass, wattage must be increased to provide for absorption and depreciation. Use the following factor to increase wattage (determined on normal open mounting), to determine wattage required when recessed: Pebbled or crackled glass—1.9; Sanded glass—2.1; Flashed opal glass—2.8.



Carefully planned lighting increases the attractiveness of modern store fronts.



*The "standard for
show window
lighting?"*



*This is Schedule XR
covered by No. 25
Handbook*

Show Window Lighting



KEEN competition makes it necessary for every merchant to plan attractive window displays, and to light them effectively—well lighted show windows sell the most goods. There is an X-Ray Reflector for every size show window—the type you require can easily be determined from the chart at the right.

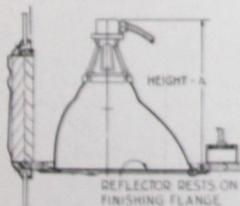
"Attraction-Zone" Lighting

Merchants and display men know that the lower third of a show window (that portion below eye level) sells *more* goods and sells them *faster* than any other part of the display. Two new X-Ray Reflectors have been developed for lighting this area (appropriately called the "Attraction-Zone") 35% to 50% brighter than the rest of the display at the cost of ordinary lighting.

Spacing of Reflectors

The number of reflectors required is governed by the brightness of neighboring windows, color of display and background. Spacing suggested: Large cities, business districts—12". suburban districts—12" to 18". Small cities—12" to 18". Towns—15" to 24". Always provide adequate wiring capacity for possible future use. Convenience outlets as required should also be included.

Lamp Size and Dimensions of Reflectors



Use Finishing Flange to support reflector when recessing reflectors and wiring above ceiling.

Reflector Data				To Recess Use	
Cat. No.	Lamp (Watts)	Dimensions		Flange No.	Min. Ht.
		Width	Depth		
310	100	Dia.	7"	14310	8 1/4"
400	150	8 1/2"	8"	11400	9 5/8"
410	150	9 1/2"	9 1/2"	11410	10"
420	150	Dia.	8 3/4"	10517	9 3/8"
500	200		10"	11500	11 1/2"
510	200	10 1/2"	10 1/2"	11510	11 1/4"
530	200	Dia.	9 1/2"	14026	10 1/2"
804	200	Dia.	10 1/2"	10417	11 1/2"
842	500-300	Dia.	13 1/2"	14004	13"
844	150-100	Dia.	8 3/4"	10517	7"
900	500-300	13"	13"	10432	14 1/4"
1010	500-300	Dia.	13"	14110	13 1/2"



For "Attraction-Zone" Lighting, use Nos. 420 and 530 instead of Nos. 410 and 510.

General Details

THESE drawings give an idea of the construction of several types of Curtis Luminaires. Each incorporates features that reduce the cost of installation and make it possible to clean or relamp quickly. They will pass rigid electrical inspection everywhere.

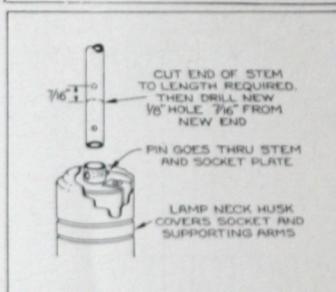
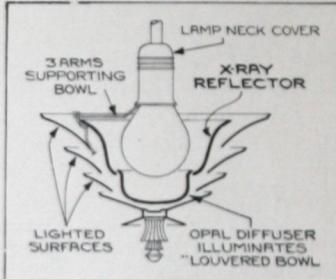
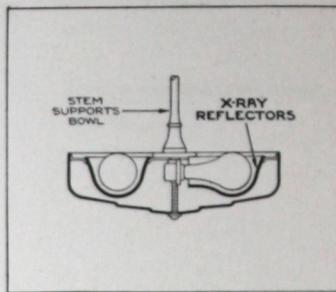
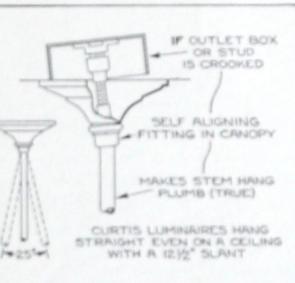
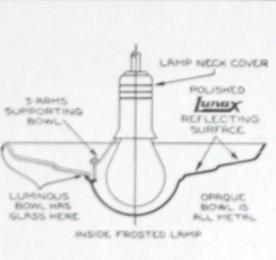
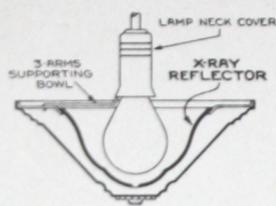
STEM-HANGERS: All stem-hangers have self-aligning fitting in the canopy so that they hang straight (plumb), even if the outlet-box or stud is crooked. Diagram (right below) explains how stem is easily shortened on the job without threading.

CANOPY-SWITCH: Where switch must be used in luminaires having shallow canopy, it will be necessary to use deeper canopy than that regularly supplied. Deep canopy, No. 5054 (dia. $5\frac{1}{16}$ ", ht. $2\frac{3}{4}$ "), supplied on order at slight extra cost.

THREE-LIGHT LAMP: Where 500 or 350-watt (three-filament) lamps are to be used, two-circuit socket and additional wire will be substituted at slight extra cost in place of single circuit Mogul socket, regularly supplied. Specify "with two-circuit socket for three-light lamp."



Luminaires using single lamp are easily relamped or cleaned by unhooking one arm. This lowers one side of the bowl as shown.



Suggested Specification Paragraphs

These general specifications cover important points which should be considered in specifying or bidding on standard lighting equipment. Their use is recommended to save time when writing specifications. General specifications such as these, will generally follow the details covering quantities of material, etc.

(1) **General Specifications for Indirect Luminaires of Steel:** These shall have bowls made from cold rolled steel not less than .043" in thickness. They shall be heavily zinc plated to resist rust before the enamel finish is applied. The exterior surfaces shall be finished in not less than two coats of a lacquer enamel which is washable and which will not check, crack, blister or peel under heat from the lamp. Each bowl shall be equipped with (an) X-Ray silver mirrored glass reflector(s) designed to produce the correct distribution of light over the ceiling area for indirect illumination.

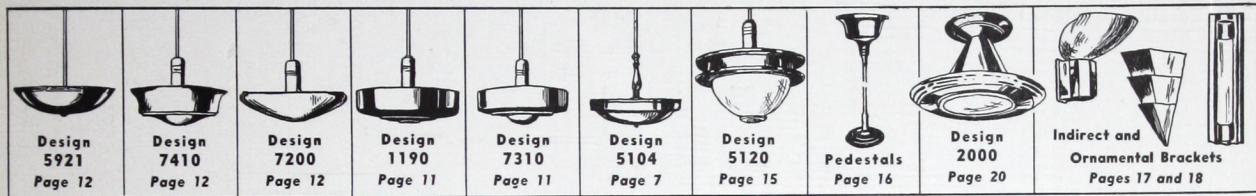
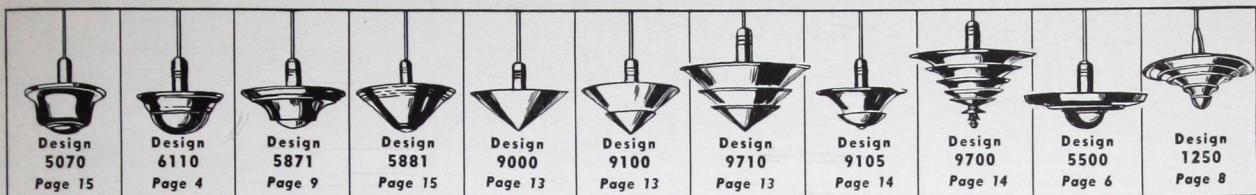
CANOPY: The canopy shall be made so it will slide down over the stem (or chain) by unscrewing a "canopy supporting-ring" to permit easy and quick lowering of canopy when redecorating.

(2) **General Specifications for Indirect Luminaires of Aluminum:** These shall have bowls made from aluminum not less than .031" in thickness. The exterior surfaces shall be finished as specified in either natural Satin Aluminum by etching, brushing and lacquering or in natural Polished Aluminum by polishing, brushing and lacquering. Each bowl shall be equipped with (an) X-Ray silver mirrored glass reflector(s) designed to produce the correct distribution of light over the ceiling area for indirect illumination. (Copy last paragraph under No. 1 about canopy.)

(3) **General Specifications for Indirect Luminaires of Lunax Aluminum:** These shall have bowls made from high-quality Aluminum sheets not less than .040" in thickness. The exterior surfaces shall be finished (either in Satin Lunax or) in Polished Lunax. The inside reflecting surface of the bowl shall be either diffuse or specular and both the reflecting and exterior surfaces shall be made permanent by a covering of hard, glasslike, transparent, colorless coat of aluminum oxide produced by the electrochemical "Alzak" process. (Copy last paragraph under No. 1 about canopy.)

(4) **General Specifications for Indirect Luminaires of Brass:** These shall have bowls made from brass not less than 20 gauge B. & S., plated in the finish specified. This is to have a coat of transparent lacquer. Each bowl shall be equipped with (an) X-Ray silver mirrored glass reflector(s) for each lamp to produce the correct distribution of light over the ceiling area for indirect illumination. (Copy last paragraph under No. 1 about canopy.)

(5) **General Specifications for Supports for Luminaires Using One Lamp:** The bowl shall be supported from the socket by three arms, any one of which is easily unhooked from the bowl allowing it to swing open on the other two arms for lamp replacement and for cleaning.



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		1520	18	1543	17	2680	16	5130	15			7252	12
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		1528	18	1552	17	5003	7	5871	9	6061	15	7400	12
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		1534	17	1556	17	5070	15	5882	15	6210	4	9000	13
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Acacia	1515	Aurora	9105	Cosmos	7202	Esau	5130	Euchre	1192	Julrod	6060	Sapphire	5000
Achilles	1516	Axin	9106	Datura	1529	Gem	5071	Diana	5920	Lapis	6110	Sard	7300
Aglia	1512	Belus	1519	Dido	5921	Lotus	7252	Gemrod	5070	Lotus	7252	Sardonyx	6020
Alecto	1518	Berod	7410	Dione	5922	Glo-Ray	72	Glo-Ray	72	Moonstone	6210	Sarrod	7310
Alethia	1513	Beryl	7400	Dua-Light	42	Halo	5505	Halo	5505	Muriel	5871	Sorel	5872
Aloe	5912	Brontes	1520	Eclipse	2200	Halo, Jr.	2205	Eclipse	5500	Opal	6100	Moonstone	6210
Amarine	5020			Eclipse, Jr.	2200	Halo, Jr.	2205	Eclipse	5500	Orbit	7500	Opal	6100
Apatite	9400			Hematite	9700	Hematite	9700	Hematite	9700	Pearl	5003	Urban	1532
Apollo	5881	Cacus	7210	Iris	2000	Iris	2000	Jade	9000	Plasma	6200	Pearl	5003
Arabis	5880	Carnelian	7200	Edge-View	1250	Edge-Wood	1270	Epidote	1526	Pydeia	2660	Plasma	6200
Arcturus	9107	Casino	1194	Edge-Mere	1200	Edge-Mere	1200	Epsilon	1522	Janus	9710	Pydeia	2660
Arelia	5882	Celtis	5104	Erinide	1524	Erinide	1524	Jasper	9100	Pyrope	2682	Janus	9710
Argon	7260	Charon	1528	Jewel	5120	Jewel	5120	Jewel	5120	Verna	1534	Pyrope	2682
Argus	7250	Chloe	5103							Virgine	1538	Verna	1534
Ariel	5870	Circe	5107							Yewtu	1546	Virgine	1538
Arion	5911	Crios	5106							Yuklas	5023	Yewtu	1546
Armot	5910	Coral	6000	Eros	5120	Eros	5120						

General Information

Engineering Service: The engineering data in this handbook has been simplified to the point of making it easy to plan regular and unusual lighting installation with standard X-Ray Reflectors. Lighting recommendations and specifications will be submitted in detail by Curtis Resident Engineers located in the world's principal cities.

Use Lamp Specified: Size of lamp is indicated for each luminaire but lamp bulbs are not supplied by Curtis Lighting. For best lighting results always use the lamp specified.

Maintenance: X-Ray Reflectors need not be removed for cleaning. The inner side of the reflector is hard-glazed so that smoky-film or other foreign matter may readily be removed by wiping with a damp cloth. (See page 5).

Packing and Shipping: All goods are delivered to the transportation company in perfect condition and properly packed. If upon unpacking you find concealed damage, notify agent to inspect immediately. Claims must be taken up with the transportation company. Goods are not returnable without our consent.

Eye Comfort **Lighting**

TRADE-MARK

DESIGNED FOR SEEING

Better Light--Better Sight

IN THIS BOOK are shown installations of Eye Comfort Lighting designed for seeing. These are pictures taken under only the lighting provided by Curtis Luminaires,—a splendid testimonial to the quality of Curtis Eye Comfort Lighting. Similar typical installations will be found in every city, including many that have been giving continuous satisfactory service from fifteen to twenty years or more.

Curtis Lighting

New York

CHICAGO

Toronto

Curtis Lighting—Europe, S. A.
London Paris Antwerp

Engineers are located in
all the Principal Cities